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L4: Entry 68 of 169

File: USPT

Nov 30, 1999

DOCUMENT-IDENTIFIER: US 5996029 A

TITLE: Information input/output control apparatus and method for indicating which of at least one information terminal device is able to execute a functional operation based on environmental information

DATE FILED (1):19961015Detailed Description Paragraph Right (231):

The following describes an example of the printer capable of using the Centronics interface software which can be controlled by the S/P server unit shown in this embodiment. The Centronics interface is the standard software for transfer of data from a computer to a printer developed by Centronics, Inc. in the United States, permitting inexpensive and high speed data transfer. Almost all printers are standardized according to this Centronics system.

Detailed Description Paragraph Right (246):

When the operator for the host computer (station) selects and designates a desired scanner printer network server, printer, size of print sheet, and data format to be transferred to print the print data prepared by using the application program 56, the application program 56 transmits the data (including instructive information) to the conversion program 54. The conversion program 54 converts the data sent by the application program 56 to a data structure which can be accepted by the selected network server SP1 and transmits it to the communications program 53 and the TCP/IP program 52. For example, the Macintosh station ST1 converts QuickDraw data to CaPSL data and the IBM station ST2 converts GDI data to CaPSL data.

Detailed Description Paragraph Right (249):

When the operator for the host computer ST1 selects and designates a desired scanner printer network server, scanner, image area, resolution, multi-color or mono-color, type of compression for entry of image data by using the scanner application program 58, the scanner application program 58 transmits data to the communications program 53 through the scanner interface program 57. The communications program 53 transmits the data transferred through the scanner interface program 57 to the network server SP1 designated through the TCP/IP program, the communications program 83 of the network server SP1 receives the data through the TCP/IP program 82 and transmits the data to the overall system control program 93. The overall system control program 93 sends the entered selection and designation commands (image input commands) to the scanner control program 85, the scanner control program 85 sends the commands to the device driver 86 which serves as the image I/O unit control program according to the commands, and the device driver activates the designated scanner (for example, the scanner of the scanner printer 95) and transfers the image data to the scanner control program 85. The scanner control program 85 transfers the image data to the overall system control program 93, the overall system control program 93 transfers the image data to the communications program 83, the communications program 83 of the network server SP1 transfers the image data to the communications program (for example, the communications program 53) of the host computer designated through the TCP/IP program 82. The image data received by the communications programs 53 through the TCP/IP program 52 is further transferred to the scanner application program 58.

Detailed Description Paragraph Right (289):

The device driver 86 that has set scanner conditions sends a return value C5 to the scanner control program 85. When receiving the return value C5, the scanner control program 85 sends a scan start command C6 to the device driver 86 so as to activate the designated scanner. The device driver 86 activates a scanner E so as to read

image data and stores the image data in a band memory F. After having written one band of image data in the band memory F, the device driver 86 sends a scan completion return value C9 to the scanner control program 85. When receiving the return value C9, the scanner control program 85 performs image process for image data stored in the band memory F (namely, compresses the image data with for example a JPEG compressing board) and writes the compressed data in a buffer region H.

Detailed Description Paragraph Right (297):

When receiving a command C10, the device driver 86 activates the scanner E so as to read all image data. In addition, the device driver 86 performs an image process or the image data being read (for example, JPEG compresses the image data with for example a JPEG board) and stores the compressed data in the buffer H.

Detailed Description Paragraph Right (468):

In contrast, if the password transmitted back from the host computer 2101-1 is coincident with a password registered in the password table registered in the hard disk 1008, the S/P server 2102 transmits back scanner information including the name of a scanner capable of being scanned by the user to the host computer 2101-1. As the use of the host computer 2101-1 selects the color scanner 2104 and issues a scanning start instruction, the S/P server 2102 analyzes the scanning command transmitted from the host computer 2101-1 and effects initial setting of the designated color scanner 2104 for incorporation of an image.

Detailed Description Paragraph Right (471):

In contrast, the S/P server 2102, when a user name which has been registered is transmitted, transmits back the name of a printer capable of printing with the user to the host computer 2101-1. As the user selects the color printer 2103 through the host computer 2101 and issues a printing instruction, the S/P server 2102 analyzes the printing command sent from the host computer 2101 and effects the initial setting of the designated color printer 2103.

Detailed Description Paragraph Right (474):

As the user selects the color scanner 2104 through the host computer 2101-1 and issues a scanning instruction, the S/P server 2102 analyzes the scanning command sent from the host computer 2101-1 and effects the initial setting of the designated color scanner 2104 for incorporation of an image.

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L4: Entry 46 of 169

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Oct 17, 2000

DOCUMENT-IDENTIFIER: US 6134017 A
TITLE: Facsimile manager

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19941114

Brief Summary Paragraph Right (10):

In another aspect of the present invention, a TWAIN scan driver which is responsive to acquire commands issued by a TWAIN-compatible Windows application program delivers image data from a fax machine equipped with a hi-directional parallel interface to the Windows application program. The TWAIN scan driver includes a TWAIN negotiator for negotiating a suitable image format with the Windows application program, a scan initiator for issuing a command for initiating scan by the facsimile machine, an interface with a communication modules which sends a command via the bi-directional parallel interface to the fax machine for initiating scanning, which polls fax memory to determine whether a scanned-in document file is present in fax memory, and which in response to the presence of a scanned-in document in fax memory retrieves the scanned-in document via the bi-directional parallel interface, an image buffer for temporarily storing and for displaying the scanned-in document retrieved by the communication module, and an accept interface response to an image-accept command, for providing the scanned-in image to the Windows application program in the TWAIN-negotiated image format.

Brief Summary Paragraph Right (11):

In yet another aspect of the present invention, a communication module resident in a host computer communicates with a processor in a facsimile machine equipped with a bi-directional interface. The communication module includes a polling mechanism, responsive to timer messages issued from a Windows operating system, for polling the facsimile machine via the bi-directional interface to determine whether an image file is present in facsimile memory, an image buffer into which the communication module stores image files retrieved from facsimile memory via the bi-directional interface, a file identifier for determining whether the retrieved image file is a scanned-in image file or a received-fax image file, and a delivery mechanism for delivering the retrieved image file to an in-box of a facsimile manager in a case where the file identifier determines that the retrieved image file is a received-fax image file, and for delivering the retrieved image file to an active scan driver in a case where the file identifier determines that the retrieved image file is a scanned-in image file.

Detailed Description Paragraph Right (3):

Computing equipment 10 includes a mass storage device such as computer disk 11 for storing data files which include document image files, in either compressed or uncompressed format, and for storing application program files which include windows operating System, Facsimile Manager application program, ACTif module application, printer driver application, TWAIN scanner driver application, standard driver applications such as Canon printer, Canon scanner and phone drivers, image files, Windows printing applications, Windows scanning applications, other word processing applications, and other data files.

Detailed Description Paragraph Right (12):

Main memory 50 interfaces with computer bus 41 so as to provide random access memory storage for use by CPU 40 while executing stored program instructions from, for example, the facsimile manager program, standard driver applications, or any of the executable files in disk 11. More specifically, CPU 40 loads those programs from disk 11 into main memory 50 and executes those stored programs out of main memory

50.

Detailed Description Paragraph Right (13):

In accordance with a user's instructions, stored application programs provide for image processing and manipulating of data. For example, a desktop processing program, such as Wordperfect.RTM. for Windows, may be activated by an operator to create, manipulate and view documents before printing (or faxing by using the configurable driver discussed below), or saving the created document. Similarly, various device drivers may be executed in order to scan-in image data, or operate the telephone handset of facsimile machine 18.

Detailed Description Paragraph Right (26):

The third and last phase of processing a scanned-in image is for the case that a TWAIN scanner driver is the active scanner driver and not the standard scanner driver of facsimile manager 100. That is, for some Windows graphics application programs, the user can initiate a scanner operation which allows the user to import a recently scanned file directly into the application. Once the application has consumed the scanned in image from memory of facsimile machine 18, the entire image file is deleted automatically from memory.

Detailed Description Paragraph Right (34):

FIG. 5 is a detailed flow diagram which describes the manner by which ACTif communication module 51 communicates with facsimile machine 18. Briefly, ACTif communication module 51, which resides in computing equipment 10, communicates with the microprocessor of facsimile machine 18 via the bi-directional hardware interface 30. ACTif communication module 51 includes a polling mechanism which is responsive to a timer message issued from Windows operating system 52. ACTif communication module 51 polls facsimile machine to determine whether an image file such as a scanned-in image or a received facsimile machine transmission is present in the memory of facsimile machine 18. In the case that image file exists in the memory of facsimile machine 18, ACTif communication module 51 stores the image file in either in-box 120 of facsimile manager 100, in the case the image file is a fax file, or in an active scanner driver such as the TWAIN scanner driver, in the case that the image file is a scanned image document. That is, ACTif communication module inspects a file identifier for determining whether the retrieved image file is a scanned in image file (identifier=0.times.01) or a received facsimile image file (identifier 0.times.03) and has a delivery mechanism for delivering the retrieved image file to an in-box of the facsimile manager 54 in the case when the file identified determines that the retrieved image file is a received fax image file and for delivering the retrieved image file to an active scanner driver in the case where it is determined to be a scanned in image file. ACTif communication module 51 also includes a download module for downloading a fax file to facsimile machine 18 via bi-directional parallel interface 30 for fax transmission by facsimile machine 18 and for downloading a print file to facsimile machine 18 via the bi-directional parallel interface for printout by facsimile machine 18.

Detailed Description Paragraph Right (37):

In step S504, ACTif communication module 51 retrieves the file from memory of facsimile 18 and determines, based on the file identifier, whether the file is a fax file or scanned-in image file. If it is a fax file, the file is stored in in-box 120 of facsimile manager 100. However, in step S504, if it is in a scanned-in image file, the file is delivered to an "active" scanner driver in step S507. In either case, after steps S505 or S507, flow returns to step S502 and ACTif communication module 51 continues polling facsimile machine 18.

Detailed Description Paragraph Right (124):

As discussed previously, the user can access a scan function directly through facsimile manager 100. However, if the user is operating from a Windows application, the user can scan-in a document utilizing a TWAIN scan driver.

Detailed Description Paragraph Right (125):

A description of the TWAIN scan driver 90 will now be provided. TWAIN scan driver 90 acquires commands issued by TWAIN-compatible Windows application program. The scan driver delivers image data from facsimile machine 18 which is equipped with a bi-directional parallel interface 30 to the Windows application. According to the

present invention, TWAIN negotiates a suitable image format with the Windows applications program, issues a scan initiation command for initiating a scan operation, and interfaces with ACTif module 51 by sending a command via bi-directional parallel interface 30 to facsimile machine 18 for initiating scanning. TWAIN scan driver 90 polls fax memory to determine whether a scanned-in document file is present in fax memory and returns the scanned-in document via bi-directional parallel interface 30 in response to the presence of a scanned-in document image. An image buffer in TWAIN scan driver 90 temporarily stores and displays the scanned-in document retrieved by ACTif module 51. In response to an accept command, the scanned-in document is imported into the Windows application program in the TWAIN-negotiated image format.

Detailed Description Paragraph Right (132):

After the entire document is scanned-in, the user can page through the document if it is a multi-page document or view the single page document to determine if the scanned operation was successful. If the scanned image is satisfactory, the user can retrieve the scanned images from the TWAIN scanner driver and input it directly into the application by clicking ACCEPT button 280. By clicking ACCEPT button 280, the document will be brought into a currently operating windows application program, which in this example is the HALO application program, in the TWAIN-negotiated format.

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L4: Entry 45 of 169

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TITLE: Integrated computer and image reproduction system

DATE FILED (1):19980407Detailed Description Paragraph Right (27):

In some cases the X-ISA bus amounts to a single ISA compatible device connected to the slave circuitry. For example, E.sup.2 P.sup.2 permits attachment of standard ISA bus I/O port devices to a host computer via a cable connection to the parallel port connector. E.sup.2 P.sup.2 buffering and control circuit devices multiplex required I/O address, data and control signals over a byte-wide cable interface independently of host computer device control program steps. The cable interface, which is the E.sup.2 P.sup.2 bus, is preferably a Centronics-type printer cable. E.sup.2 P.sup.2 is also compatible with device control program steps and external devices intended to operate according to SPP and EPP standards.

Detailed Description Paragraph Right (61):

There is one register in the slave chip, the Status Image Register, mentioned briefly above. The data in this register is driven onto the AD[7:] wires when a Read Status Image cycle is performed on the slave. This register can be written via the AD[7:0] wires when a Write Status Image command is sent to the slave from the master. This register is not directly read/writable by the host system.

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L4: Entry 5 of 169

File: PGPB

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TITLE: CONTROL APPARATUS FOR A SCANNER/PRINTER

Application Filing Date (1):
19970619

Detail Description Paragraph (112):

[0174] The image data of one band stored in the band memory 103 can be transmitted to the first S/P interface circuit 4-1 in either one of two modes of operation. One is a mode of transmitting the raw image data as it is to the VME bus 16 and the other is a mode of transmitting the raw image data after being compressed by the ADCT compression/extension circuit 115. The former mode is the only one possible mode when the image data is supplied to the second S/P interface circuit 4-2. These modes can be selected by a user by operating utility programs in the host computers ST1 through STN or by using a keyboard connected to the S/P server. As a default, the system is in the mode of transmitting the raw image data as it is (through the VME bus 16).

Detail Description Paragraph (261):

[0323] To scan the image with being partitioned into two or more bands, a scan command C1 supplied from the host computer ST1 serving as the client device is received by the communication program 83 through the TCP/IP program 82. The communication program 83 notifies the whole system control program 93 of arrival of the scan command C2 to the whole system control program 93. The whole system control program 93 creates, if the device has a spool I, a spool file according to the received scan command C2 and stores it. The whole system control program 93 notifies the scanner control program 85 of a file name C3 of the spool file. If the device has no spool I, the whole system control program 93 supplies a scanner command C3 directly to the scanner control program 85. The scanner control program 85 interprets the scanner command C3 and supplies a scanner condition set command C4 to the device driver 86 to drive the designated scanner. The scanner condition set command is for setting conditions of the scanner such as the resolution. The device driver 86 is a function present corresponding to each of the scanner control program 85. The device driver 86 that set the scanner condition returns a return value C5 to the scanner control program 85. In response to this, the scanner control program 85 supplies a scan start command C6 to the device driver 86 to drive the designated scanner. The device driver 86 operates a scanner E to scan the image data and writes it in a band memory F. When the image data of one band is written in the band memory, the device driver 86 returns the return value C9 indicating completion of scanning to the scanner control program 85. In response to this, the scanner control program 85 carries out image processing on the image data stored in the band memory F. For example, the scanner control program 85 compresses the image data by using a JPEG compression board and plots the compressed data into a buffer area H.